Effects of organic fertilizers on performance of cailiflower (Brassica oleracea var botrytis) grown under protected structure.

ABSTRACT

A study on the effects of vermicomposts and composts on the nutrient status, growth and yield of cauliflower (Brassica oleracea var. botrytis) was conducted to assess the potential of these organic fertilizers in replacing the chemical fertilizer for cauliflower production under protected structure. Three composts and two vermicomposts used were oil palm empty fruit bunches compost (EFBC), chrysanthemum residue compost (CRC), soybean waste compost (SWC), green waste vermicompost (GWV) and vegetable waste vermicompost (VWV). A chemical fertilizer (N:P2O5:K2O; 12:12:17) was used as control. The amount of fertilizer applied was calculated based on 180 kg/ha of N. It was observed that VWV and EFBC were comparable to the chemical fertilizer based on their effects on the growth and yield performance of cauliflower. VWV and EFBC showed promising results and can be used to replace chemical fertilizers in fulfilling the nutrient requirements of cauliflower. The yield and curd size of VWV and EFBC treated cauliflower were similar to chemically fertilized plants. Furthermore, curds of VWV treated plants can be harvested 7 days earlier than chemically fertilized plants. The use of compost and vermicompost have positive effects on the growth and crop yield of cauliflower, and have great potential to improve vegetable production in Malaysia.

Keyword: Compost; Vermicompost; Empty fruit bunches; Chrysanthemum residue; Soybean waste; Curds.